

ENVIRONMENTAL DIAGNOSIS OF THE AREAL HYDROELECTRIC PLANT RESERVOIR IN RIO PRETO, RIO DE JANEIRO STATE, BRAZIL

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The water reservoir of Areal Hydroelectric Plant in Rio Preto, a river in Rio's inland, was studied by Departamento de Recursos Minerais do Estado do Rio de Janeiro - state agency of mining resources - for diagnosing the actual stage of sedimentation and suggests recovery measures and preservation of the reservoir. The study, with resources of Companhia de Eletricidade do Estado do Rio de Janeiro - CERJ - a former state energy company - was accomplished in 1993 and the field situation at this time was compared with the information of the dam construction (end of the 50's) using six original topographical maps. Several of longitudinal and transversal profiles were done mapping the water deep along the whole reservoir. More than 50% of the original storage volume of the reservoir's flooded area was filled with fluvial sediments (about 5.000.000 m³ of clay, silt and sand) which reduce the plant working volume. DRM proposed several measures to preserve the remained reservoir and reduce the process of continuous sedimentation. A company program for environmental recovery may include (a) evaluation of dragging efforts; (b) margins reforestation; (c) monitoring of the progresses of the sedimentation; (d) environmental education program. A new evaluation in 1996 verified the acceleration of the sedimentation and the urgency of measure to preservation the remaining reservoir working volume. In 1999, after the CERJ privatisation, the cooperation must be retake with evaluation of the original proposals and future common actions.